



6560-50-P

## **ENVIRONMENTAL PROTECTION AGENCY**

### **40 CFR Part 52**

**[EPA-R09-OAR-2016-0292; FRL-9958-79-Region 9]**

#### **Approval and Revision of Air Plans; Arizona; Regional Haze State and Federal Implementation Plans; Reconsideration**

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Final rule.

**SUMMARY:** The Environmental Protection Agency (EPA) is taking final action to approve a source-specific revision to the Arizona state implementation plan that addresses the best available retrofit technology requirements for the Cholla Power Plant (Cholla). The EPA finds that the state implementation plan revision fulfills the requirements of the Clean Air Act and the EPA's Regional Haze Rule. In conjunction with this final approval, the EPA is taking final action to withdraw the federal implementation plan provisions applicable to Cholla. This also constitutes our action to address petitions for reconsideration granted by the EPA related to Cholla.

**DATES:** This rule is effective on **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

**ADDRESSES:** The EPA has established a docket for this action, identified by Docket ID Number EPA-R09-OAR-2016-0292. The index to the docket is available electronically at <http://www.regulations.gov> or in hard copy at the EPA Region IX office, 75 Hawthorne Street, San Francisco, California. While all documents in the docket are listed in the index, some information may be publicly available only at the hard copy location (*e.g.*, copyrighted material),

and some may not be publicly available in either location (*e.g.*, confidential business information). To inspect the hard copy materials, please schedule an appointment during normal business hours with the contact listed below.

**FOR FURTHER INFORMATION CONTACT:** Anita Lee, (415) 972-3958, or by email at lee.anita@epa.gov.

**SUPPLEMENTARY INFORMATION:** Throughout this document whenever “we,” “us,” or “our” is used, we mean the EPA.

## **Table of Contents**

- I. Background
- II. Public Comments and the EPA’s Response to Comments
  - A. Comments on the BART Reassessment
  - B. Comments on Visibility Benefits
  - C. Comments on the CAA Section 110(l) Analysis
  - D. Other Comments
- III. Summary of Final Action
- IV. Environmental Justice Considerations
- V. Incorporation by Reference
- VI. Statutory and Executive Order Reviews

### *I. Background*

On July 19, 2016, the EPA proposed to approve the source-specific regional haze state implementation plan (SIP) revision for the Cholla Power Plant (“Cholla SIP Revision”) submitted to the EPA by the Arizona Department of Environmental Quality (ADEQ).<sup>1</sup> The EPA concurrently proposed to withdraw federal implementation plan (FIP) provisions applicable to Cholla and proposed that the FIP withdrawal would constitute the EPA’s action on petitions for reconsideration of the FIP.

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<sup>1</sup> See 81 FR 46852, July 19, 2016.

This section provides a brief overview of the statutory and regulatory background for this action. Please refer to the proposed rule for additional discussion of the visibility protection provisions of the Clean Air Act (CAA or “Act”) and the Regional Haze Rule (RHR), and the EPA’s evaluation of the regional haze SIP revision for Cholla.<sup>2</sup>

In section 169A of the 1977 Amendments to the CAA, Congress created a program to protect visibility in the nation’s national parks and wilderness areas. This section of the CAA established as a national goal the “prevention of any future, and the remedying of any existing, impairment of visibility in mandatory Class I Federal areas which impairment results from manmade air pollution,” and directed states to evaluate the best available retrofit technology (BART) to address visibility impairment from certain categories of major stationary sources built between 1962 and 1977 (known as “BART-eligible” sources).<sup>3</sup> In the 1990 CAA Amendments, Congress amended the visibility provisions of the CAA to focus attention on the problem of regional haze, *i.e.*, visibility impairment produced by a multitude of sources and activities located across a broad geographic area.<sup>4</sup>

In 1999, the EPA promulgated the RHR that required states to, among other things, conduct an analysis to determine BART for each BART-eligible source that may be anticipated to cause or contribute to visibility impairment in a Class I area.<sup>5</sup> States must analyze and consider the following five factors as part of each source-specific BART analysis: (1) the costs of compliance, (2) the energy and nonair quality environmental impacts of compliance, (3) any existing pollution control technology in use at the source, (4) the remaining useful life of the source, and (5) the degree of visibility improvement that may reasonably be anticipated to result

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<sup>2</sup> *Id.*

<sup>3</sup> *See* CAA section 169A(a)(1).

<sup>4</sup> *See* CAA section 169B.

<sup>5</sup> 40 CFR 51.308(e).

from use of such technology (collectively known as the “five-factor BART analysis”).<sup>6</sup> In determining BART for fossil fuel-fired electric generating plants with a total generating capacity in excess of 750 megawatts (MW), states must use guidelines promulgated by the EPA.<sup>7</sup> In 2005, the EPA published the current version of the “Guidelines for BART determinations under the Regional Haze Rule,” codified at appendix Y to 40 CFR part 51 (“BART Guidelines”).<sup>8</sup>

Cholla consists of four coal-fired electric generating units with a total plant-wide generating capacity of 1150 MW. Unit 1 is a 126 MW boiler that is not BART-eligible. Unit 2 (272 MW), Unit 3 (272 MW), and Unit 4 (410 MW) are tangentially-fired dry bottom boilers that are BART-eligible. Units 1, 2, and 3 are owned and operated by Arizona Public Service Company (APS). Unit 4 is owned by PacificCorp and operated by APS.

On February 28, 2011, ADEQ submitted a regional haze SIP under section 308 of the RHR to the EPA (“2011 RH SIP”). This submittal included, among other things, BART analyses and determinations for Cholla Units 2, 3, and 4 for oxides of nitrogen (NO<sub>x</sub>), particulate matter with an aerodynamic diameter of less than 10 micrometers (PM<sub>10</sub>), and sulfur dioxide (SO<sub>2</sub>).<sup>9</sup> On December 5, 2012, the EPA took final action that approved in part and disapproved in part the 2011 RH SIP. The EPA found that ADEQ’s overall approach in conducting its BART analyses was appropriate, but we also identified significant flaws in the analyses for specific BART factors that warranted disapproval of the NO<sub>x</sub> BART determination for Cholla. Specifically, the EPA found that ADEQ did not calculate the costs of compliance in accordance with the BART Guidelines, did not appropriately evaluate and consider the visibility benefits, did not provide sufficient explanation and rationale for its final BART determination, and did not include

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<sup>6</sup> See CAA section 169A(g)(2) and the RHR at 40 CFR 51.308(e)(1)(ii)(A).

<sup>7</sup> See CAA section 169A(b)(1) and the last sentence of 169A(b).

<sup>8</sup> See 70 FR 39104, July 6, 2005.

<sup>9</sup> The 2011 RH SIP submittal is document number 0017 in the docket for this rulemaking at EPA-R09-OAR-2016-0292, entitled “B.1.a ADEQ RH 308 SIP 2011-SIP only.”

enforceable emission limits in the SIP.<sup>10</sup> In the same action, the EPA promulgated a FIP for the disapproved portions of the SIP, including a NO<sub>x</sub> BART determination for Cholla that established an emission limit of 0.055 pound per million British thermal units (lb/MMBtu) determined across the three units on a rolling 30-boiler-operating-day average, with a compliance date of December 5, 2017. This limit is achievable with the combination of low-NO<sub>x</sub> burners with separated over-fire air (LNB+SOFA) and selective catalytic reduction (SCR). The FIP also established an SO<sub>2</sub> removal efficiency requirement of 95 percent for Units 2, 3, and 4 with a compliance date for Units 3 and 4 of December 5, 2013, and a compliance date for Unit 2 of April 1, 2016. Finally, the FIP also established compliance deadlines, compliance determination methodologies, and requirements for equipment maintenance, monitoring, recordkeeping, and reporting for NO<sub>x</sub>, SO<sub>2</sub> and PM<sub>10</sub>.<sup>11</sup> On April 9, 2013, the EPA granted petitions to reconsider the compliance determination methodology for NO<sub>x</sub>.<sup>12</sup>

On January 15, 2015, APS and PacifiCorp submitted an “Application for Significant Permit Revision and Five-Factor BART Reassessment for Cholla” to ADEQ. APS and PacifiCorp committed to take specific actions in lieu of the FIP requirements for Cholla and requested that ADEQ conduct a revised BART analysis and determination (“BART Reassessment”) and submit it to the EPA as a revision to the Arizona RH SIP. Specifically, APS and PacifiCorp committed to (1) permanently close Cholla Unit 2 by April 1, 2016, (2) continue to operate LNB+SOFA on Units 3 and 4, and (3) by April 30, 2025, permanently cease burning coal at both units with the option to convert both units to enable combustion of pipeline-quality

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<sup>10</sup> See generally, *Ariz. Ex rel. Darwin v. US EPA*, 815 F.3d 519 (9<sup>th</sup> Circuit, 2016).

<sup>11</sup> See 77 FR 72511, December 5, 2012.

<sup>12</sup> See letter from Jared Blumenfeld, EPA Region IX, to E. Blaine Rawson, Ray Quinney & Nebeker P.C. (on behalf of PacifiCorp), dated April 9, 2013; letter from Jared Blumenfeld, EPA Region IX, to Norman Fichthorn, Hunton and Williams LLP (on behalf of APS), dated April 9, 2013; and letter from Jared Blumenfeld, EPA Region IX, to Aaron Flynn, Hunton and Williams LLP (on behalf of APS), dated April 9, 2013.

natural gas by July 31, 2025, with an annual average capacity factor of less than or equal to 20 percent.

On October 22, 2015, ADEQ submitted to the EPA the Cholla SIP Revision that incorporates the Cholla BART Reassessment. The Cholla SIP Revision consists of a revised BART analysis and determination for NO<sub>x</sub>, an analysis under CAA section 110(l), and revisions to Cholla's operating permit to implement ADEQ's revised BART determination for NO<sub>x</sub> and the commitments by APS and PacifiCorp related to the retirement and repowering of units.<sup>13</sup> ADEQ determined that if APS closed Unit 2 by April 1, 2016, no BART determination for Unit 2 would be necessary because the enforceable closure date is within the 5-year window for compliance with BART. For Units 3 and 4, ADEQ conducted a revised BART analysis in light of the commitments made by APS and PacifiCorp regarding future operation of those units. Based on its re-analysis of the BART factors, ADEQ determined BART for Cholla Units 3 and 4 to be LNB+SOFA when coal is combusted in those units. In the permit revision submitted as part of the Cholla SIP Revision, ADEQ established unit-specific emission limits for Cholla Units 3 and 4 of 0.22 lb/MMBtu, effective until the permanent cessation of coal burning on April 30, 2025, and an emission limit of 0.08 lb/MMBtu, effective May 1, 2025 and thereafter, that would apply if Units 3 or 4 are repowered to natural gas. Although ADEQ's BART determination for Cholla Units 3 and 4 is LNB+SOFA, the permit revision for Cholla sets an emission limitation achievable with this technology, but it does not specify that LNB+SOFA must be used.

The EPA's proposed action on the Cholla SIP Revision includes a comprehensive summary of ADEQ's BART Reassessment for Cholla Units 3 and 4, and the EPA's evaluation of ADEQ's submittal. In this section, we provide a brief summary of the EPA's evaluation of the

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<sup>13</sup> The Cholla SIP Revision is document number 0019 in the docket for this rulemaking at EPA-R09-OAR-2016-0292, titled "B.3. 2015-10-22 – Cholla SIP Revision."

Cholla SIP Revision. Please see the proposed rule for a detailed discussion of ADEQ's analysis and the EPA's evaluation of it.<sup>14</sup>

In our evaluation of Cholla Unit 2, we noted that the permanent retirement date of April 1, 2016, in the Cholla SIP Revision coincides with the compliance deadlines for SO<sub>2</sub> and PM<sub>10</sub> in the FIP and precedes the compliance deadline for NO<sub>x</sub> by over 1 year. The EPA further noted that Unit 2 permanently closed on October 1, 2015.<sup>15</sup> If Unit 2 had not retired, APS would have been required to install additional controls to meet the applicable SO<sub>2</sub>, PM<sub>10</sub>, and NO<sub>x</sub> limits. Because the requirement for the permanent retirement of Unit 2 will become effective and federally enforceable when the Cholla SIP Revision is approved into the SIP and the FIP provisions applicable to Cholla are withdrawn, we proposed approval of the requirement for permanent retirement of Unit 2 as meeting the requirements of the CAA and the RHR.

In our evaluation of Units 3 and 4, we found that ADEQ's BART Reassessment was consistent with the requirements of the CAA, the RHR, and the BART Guidelines and that it addressed the flaws that were the bases for our disapproval of the BART analysis for Cholla. Specifically, in its 2011 RH SIP, ADEQ's cost analysis was flawed because it included certain line item costs that were inconsistent with the EPA Control Cost Manual (CCM). This approach did not comply with the direction in the BART Guidelines to base cost estimates on the CCM. In its BART Reassessment for Cholla, ADEQ relied on the cost estimates, calculated using the CCM methodology, that the EPA developed as part of the FIP for Cholla.

In its 2011 RH SIP, ADEQ considered the visibility benefits of controls on only one unit at a time and overlooked significant benefits at the multiple Class I areas, thereby understating and not giving appropriate consideration to the full visibility benefits of the candidate controls.

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<sup>14</sup> See 81 FR 46852 at 46854-46863, July 19, 2016.

<sup>15</sup> See letter from Edward Seal, APS, to Kathleen Johnson, EPA, and Eric Massey, ADEQ, dated October 28, 2015.

In its BART Reassessment for Cholla, based on modeling performed by APS and PacifiCorp, ADEQ evaluated the visibility impacts and potential improvements from all units together and also considered potential improvements at all 13 Class I areas within 300 kilometers of Cholla.

As discussed in our proposed rulemaking, the EPA also proposed to find that ADEQ appropriately considered and weighed the five BART factors in determining BART for Cholla. We stated that it was reasonable for ADEQ to conclude that the costs of SCR and selective noncatalytic reduction (SNCR) were not warranted by the visibility benefits. Specifically, we noted that we were not aware of any instance in which the EPA had determined SCR or SNCR to be BART where the average and incremental cost-effectiveness of those controls equaled or exceeded the average and incremental cost-effectiveness of those controls for Cholla Units 3 and 4. Nor were we aware of any instance in which the EPA disapproved a state's BART determination that rejected SCR or SNCR as BART based on average and incremental cost-effectiveness similar to those for Cholla Units 3 and 4. In addition, although we noted that the visibility benefits of SCR are significant, and the visibility benefits of SNCR are not insignificant, we determined that it was reasonable for ADEQ to determine that the benefits were not warranted given the costs of SCR and SNCR. Moreover, after approximately 8 years, when Units 3 and 4 cease coal combustion permanently and are either closed or converted to natural gas, the benefits of SCR and SNCR would be negligible.

Finally, in our proposed rulemaking, we evaluated the Cholla SIP Revision with respect to certain other requirements of the CAA and proposed to find that it would not interfere with attainment of the national ambient air quality standards (NAAQS), reasonable further progress, or any other applicable requirement of the CAA. We further noted that the enforceable emission limitations and the requirements for monitoring, recordkeeping, and reporting promulgated in the



FIP for Cholla are included in the operating permit revision for Cholla that ADEQ included with its Cholla SIP Revision. Therefore, these requirements will remain federally enforceable when the Cholla SIP Revision is approved and the FIP provisions are withdrawn. Based on our evaluation of the Cholla SIP Revision, we proposed to approve the SIP revision, withdraw the FIP provisions, and to find that withdrawal of the FIP would constitute our action on the petitions for reconsideration submitted by APS and PacifiCorp.

## *II. Public Comments and the EPA's Response to Comments*

We received four comment letters from the following organizations prior to the close of the comment period on September 2, 2016: (1) APS, (2) PacifiCorp, (3) Environmental Defense Fund and Western Resource Advocates, and (4) Earthjustice on behalf of National Parks Conservation Association and Sierra Club.<sup>16</sup>

### *A. Comments on the BART Reassessment*

*Comment 1:* One commenter asserted that the BART Reassessment violates the CAA's mandatory 5-year BART compliance deadline and the regulatory requirement to achieve visibility improvement in the first planning period that ends in 2018. In addition, the commenter argued that the BART Guidelines at appendix Y state that in the event a source prefers to shut down to comply with BART, the BART requirement must maintain consistency with the statutory requirement to install BART within 5 years, and the source may not be allowed to

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<sup>16</sup> See (1) letter from Chas Spell, Arizona Public Service, to Gina McCarthy, EPA, re: Arizona Public Service Company Comments on EPA's Proposed Rule *Approval and Revision of Air Plans; Arizona; Regional Haze State and Federal Implementation Plans; Reconsideration*, dated September 1, 2016; (2) letter from William K. Lawson, PacifiCorp, to Vijay Limaye, EPA, re: Docket ID No. EPA-R09-OAR-2016-0292 Approval and Revision of Air Plans; Arizona; Regional Haze State and Federal Implementation Plans; Reconsideration (Proposed Rule), dated September 1, 2016; (3) letter from Bruce Polkowsky, Graham McCahan, Environmental Defense Fund, and John Nielsen, Western Resource Advocates to Vijay Limaye, EPA, re: Comments on the proposed approval of a source-specific revision to the Arizona Implementation Plan for Best Available Retrofit Technology at Cholla Generating Station. Docket ID No. EPA-R09-OAR-2016-0292, undated letter submitted to [www.regulations.gov](http://www.regulations.gov) on September 2, 2016; and (4) letter from Michael Hiatt, Earthjustice on behalf of Kevin Dahl, Stephanie Kodish, and Nathan Miller, National Parks Conservation Association, and Sandy Bahr, Bill Corcoran, and Gloria Smith, Sierra Club, to Vijay Limaye, EPA, re: Arizona Regional Haze Plan – Cholla BART Reassessment, dated September 2, 2016.

operate beyond 5 years without BART controls in place. The commenter further stated that the EPA cannot scrap its existing BART determination for Cholla, which has been in effect for over 3 years, and issue a new BART determination that would restart the 5-year BART compliance clock. One commenter opined that because the EPA's proposal is unlawful, the EPA should leave the existing BART determination for Cholla in place.

*Response 1:* The EPA disagrees with the comment that the Cholla SIP Revision violates the 5-year compliance deadline for BART, the regulatory requirement to achieve visibility improvement in the first planning period, or the BART Guidelines. As discussed in our proposed rule, in the Cholla SIP Revision, ADEQ determined BART to be LNB+SOFA.<sup>17</sup> The emission limit associated with installation and operation of LNB+SOFA while burning coal at Cholla Units 3 and 4 is 0.22 lb/MMBtu. This emission limit is reflected in the Cholla permit revision that is included as Appendix A of the Cholla SIP Revision. The permit conditions will become effective and federally enforceable 30 days following publication of this final rule in the *Federal Register*, which we anticipate will be prior to the compliance deadline established in the FIP of December 5, 2017. Therefore, although we agree with the commenter that BART emission limitations must be in place within 5 years of approval, we disagree with the commenter that ADEQ has restarted the 5-year BART compliance clock.

In addition to its BART determination for Cholla Units 3 and 4, ADEQ also included a permit revision for Cholla in its SIP submittal. The permit revision includes the 0.22 lb/MMBtu emission limitation that would apply until the permanent cessation of coal combustion in Units 3 and 4, and an emission limitation of 0.08 lb/MMBtu that would apply if the units are converted to natural gas. The commenter appears to have misconstrued these provisions related to future

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<sup>17</sup> See 81 FR 46852 at 46856 (July 19, 2016).

operation in 2025 to be part of ADEQ's BART determination. We consider the permit requirements to cease coal combustion in 2025 and comply with new emission limitations if Units 3 and 4 are converted to natural gas to be measures that strengthen the Cholla SIP Revision. The BART determination for Units 3 and 4 that we are approving is the 0.22 lb/MMBtu emission limit. This is consistent with ADEQ's response to a similar comment, stating: "Although the new proposal includes conversion to natural gas-firing at Units 3 and 4 in 2025, ADEQ did not consider it as a BART control option under the BART determination process because it is beyond the mandatory five-year window."<sup>18</sup> Furthermore, we note that because Cholla Units 3 and 4 currently cannot combust natural gas, there is no obligation for ADEQ to determine BART for those units if they are repowered to operate on natural gas.<sup>19</sup> Therefore, we consider the 0.08 lb/MMBtu emission limit to be a SIP-strengthening measure, and approvable as such, but we do not consider it to be part of the BART determination. In addition, the presence of an emission limit for future operation on natural gas as a SIP requirement is not critical to the withdrawal of the FIP. We are not addressing whether 0.08 lb/MMBtu would be an appropriate BART emission limit for these units if they were currently combusting natural gas. We note that because NO<sub>x</sub> emissions resulting from natural gas combustion are low, there have been few if any SIPs or FIPs that have included a determination that BART for electric generating units (EGUs) combusting natural gas was a lower NO<sub>x</sub> level than already being achieved at the source. We are approving the BART determination in the Cholla SIP Revision in light of the enforceable SIP requirement for Units 3 and 4 to cease coal combustion in 2025.

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<sup>18</sup> See Appendix F.6 Responsiveness Summary of the Cholla SIP Revision (page 6 of 10 in Appendix F.6).

<sup>19</sup> See SO<sub>2</sub> emission limits for San Juan Generating Station (76 FR 52387, August 22, 2011) and for 6 EGUs in Oklahoma (76 FR 81727, December 28, 2011), and NO<sub>x</sub> emission limits for Jim Bridger and Naughton (79 FR 5031, January 30, 2014), where emission limits are higher than would be appropriate for BART if the units were combusting natural gas.

The Cholla SIP Revision also requires Cholla Units 3 and 4 to comply with the BART emission limit prior to the end of the first planning period in 2018. We further note that APS and PacifiCorp have already installed LNB+SOFA on Cholla Units 3 and 4.<sup>20</sup> In addition, the regulatory requirement cited by the commenters, to achieve visibility improvements in the first planning period, is associated with alternatives to BART as put forth in 40 CFR 51.308(e)(2). The Cholla SIP Revision is a re-analysis of BART that is based on new facts since the promulgation of the FIP; it is not an alternative to BART and compliance deadlines associated with alternatives to BART are not relevant to the Cholla SIP Revision.

We also disagree with the commenter's assertion that a BART determination that has been in place for over 3 years cannot be revised when a new material fact has arisen, *i.e.*, that the Cholla units will not continue to combust coal indefinitely, which had been an assumption of the original BART determination in the FIP. In the rule proposing to partially approve and partially disapprove the 2011 RH SIP, the EPA encouraged the State to submit a revised SIP to replace our FIP, and we noted that the EPA would work with the State to develop a revised plan.<sup>21</sup> We anticipated that ADEQ might develop a SIP to address the flaws we identified in our review of the 2011 RH SIP. APS and PacifiCorp also petitioned the Administrator to reconsider certain aspects of the FIP for Cholla. We granted the petitions based on our intention to reconsider aspects of the compliance determination methodology in the FIP. Therefore, although the FIP for Cholla has been in place for over 3 years, the development of a revised BART analysis for this facility was not unexpected. As discussed elsewhere in this final rule, the compliance deadline for the revised BART emission limit for Cholla remains within the compliance deadline in the

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<sup>20</sup> See *e.g.*, page 3 of the Cholla SIP Revision that states the LNB+SOFA are currently installed on Units 3 and 4.

<sup>21</sup> See 77 FR 42834, July 20, 2012.

FIP of December 5, 2017. Thus, ADEQ did not extend the BART compliance deadline in the Cholla SIP Revision beyond the original compliance date of December 5, 2017.

Finally, as discussed elsewhere in this final rule, we disagree with the comment asserting that our action is unlawful. Based on our evaluation of the Cholla SIP Revision, we have determined that ADEQ conducted a BART analysis for Cholla that meets the requirements of the CAA, the RHR, and the BART Guidelines. Therefore, we disagree that the BART determination promulgated in the FIP should remain in place.

*Comment 2:* One commenter opined that the EPA's cost analysis for SNCR was flawed because the EPA based the average cost-effectiveness of SNCR on 8 years of operation on coal and 12 years of operation on natural gas. The commenter argued that the operation of SNCR on the units after the switch to gas in 2025 would result in over 12 years of additional interest and operation and maintenance costs with minimal pollution reduction benefits. The commenter asserted that operation of SNCR for the 8 years of coal combustion and then ceasing to operate SNCR when the units switch to natural gas would be more cost-effective. The commenter argued that this would reduce the average cost-effectiveness of SNCR on Units 3 and 4 to \$2,234 - \$2,342 per ton of NO<sub>x</sub> removed and the incremental cost-effectiveness (relative to LNB/SOFA) to \$5,364 - \$5,458 per ton of NO<sub>x</sub> removed. The commenter further argued that its approach (to base the remaining useful life of SNCR on the time during which the facility would burn coal) is consistent with how the EPA considered the remaining useful life for other sources transitioning to gas or other fuels, and cited to the 2012 BART determinations for the Centralia and Boardman facilities. The commenter also pointed to the BART determinations for Healy Unit 1 in Alaska and CENC Unit 5 in Colorado, and reasonable progress determinations for the Craig Unit 3 in Colorado, where SNCR was determined to be cost-effective with average cost-effectiveness

values that ranged from \$3,526 – \$4,887 per ton of NO<sub>x</sub> removed and incremental cost-effectiveness values that ranged from \$5,445 - \$9,271 per ton of NO<sub>x</sub> removed.

*Response 2:* In reviewing the analysis conducted by ADEQ to assess whether the Cholla SIP Revision is approvable, the EPA's role is to decide whether the SIP meets the requirements of the CAA, the RHR, and the BART Guidelines. In undertaking such a review, the EPA does not usurp a state's authority but ensures that such authority is reasonably exercised. The CAA and the RHR set forth five factors that a state must evaluate to reach a BART determination. However, the CAA and the RHR provide flexibility to the state in deciding how the factors in the analysis are weighed.

We note that this comment does not accurately distinguish between the EPA's cost analysis and the cost analysis by ADEQ. The only cost analysis that the EPA conducted directly was in support of the 2012 FIP establishing a BART emission limit for Cholla achievable with the installation and operation of SCR. The EPA's cost analysis was based on 20 years of operation because, at that time, there was no commitment from the facility owners that Cholla would cease coal combustion in the future. Therefore, although the commenter refers to the cost analysis discussed in the proposed rule as "the EPA's cost analysis," the comment is actually about ADEQ's cost analysis for SNCR. For purposes of its BART Reassessment, ADEQ adapted the EPA's cost analysis from 2012 but revised the annual cost of controls to account for the planned cessation of coal combustion in 2025. The commenter is suggesting that ADEQ should have considered a control scenario that would require SNCR while combusting coal and would not require SNCR once the units are repowered to natural gas. The commenter asserts that this SNCR scenario would be more cost-effective than the operation of SNCR continuously for 20 years. Based on this consideration of cost-effectiveness, the commenter asserts that ADEQ

should have determined SNCR, applied in this way, to be BART and that the EPA should not have proposed to approve the Cholla SIP Revision.

In its response to a similar comment made to ADEQ during the public comment period for the Cholla SIP Revision, ADEQ argued that it appropriately calculated the cost-effectiveness of SNCR based on a 20-year life, with 8 years of operation on coal, and 12 years of operation on natural gas, because it was reasonable to presume that if SNCR were required, the units would be required to operate for 20 years or more to recoup the investment.<sup>22</sup> The Cholla SIP Revision established as BART an emission limit of 0.22 lb/MMBtu, achievable with the installation and operation of LNB+SOFA. Although the units must cease coal combustion by April 30, 2025, the Cholla SIP Revision provides the option for those units to be repowered to natural gas with a NO<sub>x</sub> emission limit of 0.08 lb/MMBtu and a 20 percent annual average capacity factor restriction. Emission rates from tangentially-fired boilers combusting natural gas can be expected to range from an uncontrolled emission rate of 0.16 lb/MMBtu to a rate of 0.07 lb/MMBtu when controlled using flue gas recirculation.<sup>23</sup> Thus, although Units 3 and 4 could continue to operate well beyond 8 years if they are repowered to natural gas, operation of SNCR would not be required to meet the 0.08 lb/MMBtu emission limitation in the Cholla SIP Revision. Therefore, we agree with the commenter that in this case, for Cholla Units 3 and 4, it is reasonable to evaluate the cost-effectiveness of SNCR based on the period of time that SNCR would need to be in operation in order to comply with the applicable emission limitation.<sup>24</sup>

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<sup>22</sup> See Appendix F.6 Responsiveness Summary of the Cholla SIP Revision (p. 8 of 10 in Appendix F.6). The comment submitted to ADEQ recommended calculating cost-effectiveness of SNCR based on a 7.4-year life. In this document we generally refer to the period that Cholla Units 3 and 4 would combust coal as an 8-year period.

<sup>23</sup> See spreadsheet titled "Natural gas EF.xlsx" in the docket for this rulemaking.

<sup>24</sup> However, we also note that if ADEQ had evaluated an emission limit for Units 3 and 4 applicable after the units are repowered to natural gas, that took into account the continued operation of SNCR, ADEQ's evaluation of the cost-effectiveness of SNCR based on 8 years of operation on coal and 12 years of operation on natural gas would have been more appropriate. We also note that the commenter cited to rulemakings for two facilities, Centralia and Boardman, to support the contention that the cost effectiveness of SNCR on Cholla Units 3 and 4 should have been

However, we further note that the assertion in the comment that ADEQ erred because it did not evaluate the cost-effectiveness of SNCR based on an 8-year life is incorrect. In its response to comments on the Cholla BART Reassessment, ADEQ stated that if it calculated the cost-effectiveness of SNCR based on a shorter (*i.e.*, 8-year) life the average cost-effectiveness would be less than \$2,500 per ton of NO<sub>x</sub> removed and the incremental cost effectiveness would be less than \$5,700 per ton of NO<sub>x</sub> removed. ADEQ responded that it would still reject SNCR because the incremental cost-effectiveness recalculated by the commenter, even at less than \$5,700 per ton of NO<sub>x</sub> removed, would not be justified based on the slight incremental visibility improvement. ADEQ evaluated the incremental visibility improvement of SNCR against LNB+SOFA and found that the differences in visibility improvement at the various Class I areas between the two control scenarios were relatively minor in most cases.<sup>25</sup> ADEQ noted that the cumulative incremental visibility improvement of SNCR (as compared to LNB+SOFA) for 13 Class I areas was 1.32 deciviews (ranging from 0.01 to 0.28 deciview at individual Class I areas), with an average incremental improvement of 0.1 deciview. ADEQ further noted that the visibility benefits that would be associated with SNCR on Cholla Units 3 and 4 would last only until 2025 because the closure or conversion to natural gas would reduce the visibility benefit of SNCR.<sup>26</sup> ADEQ concluded that SNCR would not be cost-effective whether it assumed a useful life of 20 years or 8 years.<sup>27</sup>

The EPA considered ADEQ's response to the comment and continues to find that ADEQ's BART Reassessment for Cholla Units 3 and 4, even when the cost-effectiveness for SNCR is evaluated for an 8-year period, is consistent with the BART Guidelines and approvable.

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calculated based on the period of time the units would be burning coal. Although we generally agree with the comment, we are not evaluating whether the facts associated with Centralia and Boardman support this argument.

<sup>25</sup> See Appendix F.6 Responsiveness Summary of the Cholla SIP Revision (p. 8 of 10 in Appendix F.6).

<sup>26</sup> *Id.*

<sup>27</sup> *Id.* (page 9 of 10 in Appendix F.6).



The commenter also refers to three facilities, Healy Unit 1, Colorado Energy Nations Company (CENC) Unit 5, and Craig Unit 3, to highlight other average and incremental cost-effectiveness values that have been determined to be reasonable for BART or reasonable progress. We considered whether these comparisons support a conclusion that ADEQ was unreasonable in rejecting SNCR based on the average (\$2,234 to \$2,342 per ton of NO<sub>x</sub> removed) and incremental (\$5,364 to \$5,458 per ton of NO<sub>x</sub> removed) cost-effectiveness values recalculated by the commenter.

The average cost effectiveness values for the three facilities cited in the comment range from \$3,526 to \$4,887 per ton of NO<sub>x</sub> removed and the incremental cost effectiveness values range from \$5,445 to \$9,271 per ton of NO<sub>x</sub> removed.<sup>28</sup> The commenter correctly notes that SNCR was required for these facilities at average and incremental cost-effectiveness values that exceed both ADEQ's and the commenter's cost-effectiveness values for SNCR at Cholla Units 3 and 4. Although the comment did not cite specifically to the Boardman facility to highlight the cost-effectiveness of SNCR, in that case the state required, and the EPA approved, a final BART determination requiring Boardman to meet an emission limit of 0.23 lb/MMBtu achievable with new LNB and modified overfire air.<sup>29</sup> The state rejected SNCR for Boardman, with an average cost effectiveness of \$1,816 per ton of NO<sub>x</sub> removed, based on the small incremental visibility improvement of 0.18 deciview at the Mount Hood Wilderness Area and concerns that excess ammonia from SNCR may result in increased rates of ammonium sulfate formation.<sup>30</sup> Thus, although there are examples of states requiring SNCR at higher average and incremental cost-effectiveness values, there are also examples of states rejecting SNCR at even lower cost-

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<sup>28</sup> See Final Rule for Healy Unit 1 (78 FR 10546, February 14, 2013) and final rule for CENC Unit 5 and Craig Unit 3 (77 FR 18052, March 26, 2012).

<sup>29</sup> See 76 FR 38997, July 5, 2011.

<sup>30</sup> See proposed rule, 76 FR 12651 at 12661, March 8, 2011.

effectiveness values than those recalculated by the commenter for SNCR at Cholla. We further note that while the state of Colorado determined BART for CENC Unit 5 to be SNCR (average cost-effectiveness of \$4,918 per ton), in the same action, the state concurrently rejected SNCR for CENC Unit 4 (average cost effectiveness of \$3,729 per ton) and determined BART for that unit to be LNB+SOFA.<sup>31</sup> Therefore, although we agree with the commenter that states have required SNCR at average and incremental cost-effectiveness values that are higher than its recalculated values for SNCR on Cholla Units 3 and 4, there are also examples of states that have rejected SNCR at average and incremental cost-effectiveness values that are similar to, or even lower than, the commenter's recalculated values for SNCR.

Furthermore, BART determinations are emission limitations rather than control technology determinations. For the three units cited by the commenter, the final BART or reasonable progress emission limits achievable with SNCR were 0.20 lb/MMBtu for Healy Unit 1, 0.19 lb/MMBtu for CENC Unit 5, and 0.28 lb/MMBtu for Craig Unit 3.<sup>32</sup> The BART emission limitation for Centralia, another facility cited by the commenter (but for other reasons), was 0.21 lb/MMBtu achievable with SNCR.<sup>33</sup> The final BART emission limitation put forth by ADEQ for Cholla Units 3 and 4, 0.22 lb/MMBtu achievable with LNB+SOFA, is generally consistent with the emission limits put forth for other facilities based on SNCR.

Although a comparison of cost-effectiveness values from other facilities is generally a useful exercise to assess the reasonableness of particular costs, the examples in the comment do not provide evidence to suggest that ADEQ's weighing of the cost-effectiveness of SNCR on Cholla Units 3 and 4 was unreasonable. In addition, cost-effectiveness is not the only factor in determining BART; each BART determination must be made on a case-by-case basis

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<sup>31</sup> 77 FR 18052, March 26, 2012.

<sup>32</sup> 78 FR 10546, February 14, 2013 and 77 FR 18052, March 26, 2012.

<sup>33</sup> 77 FR 72472, December 6, 2012.

considering the relevant facts in each case. The CAA and the RHR provide flexibility to states in deciding how the five factors are weighed in determining BART. If the EPA were reassessing BART for Cholla Units 3 and 4 in a FIP action, the EPA might have weighed the factors differently than ADEQ and reached a different conclusion. However, the EPA has evaluated ADEQ's justification for rejecting SNCR based on its consideration of cost-effectiveness and the visibility improvements from SNCR in comparison to LNB+SOFA. We consider ADEQ's BART determination for Cholla Units 3 and 4 to be consistent with the BART Guidelines and a reasonable use of its discretion in weighing the BART factors.

*Comment 3:* One commenter argued that the EPA inappropriately relied on incremental costs and incremental visibility benefits. The commenter asserted that where a selection of a particular technology as BART is supported by reasonable total costs, incremental costs should not be used to override that choice. The commenter further stated that the EPA only discussed incremental visibility benefits of SNCR relative to LNB and provided no way to assess the net visibility benefit of installing SNCR on Units 3 and 4 against the pre-LNB baseline for those units. The commenter opines that the EPA's lack of analysis of the net visibility improvements of SNCR is inconsistent with the EPA's prior action for Cholla.

*Response 3:* In this action, the EPA is evaluating the analysis conducted by ADEQ to assess whether the Cholla SIP Revision meets the requirements of the CAA, the RHR, and the BART Guidelines. We disagree with the commenter's assertion that it is inappropriate to rely on incremental costs or incremental visibility benefits. The CAA and the RHR specify that the states or the EPA must consider cost and visibility in the five-factor analysis. With respect to the cost factor, in promulgating the BART Guidelines, the EPA stated, "In addition, the guidelines continue to include both average and incremental costs. We continue to believe that both average

and incremental costs provide information useful for making control determinations.”<sup>34</sup> Section IV.4.e.1 of the BART Guidelines specifies that states should consider incremental cost-effectiveness in combination with the average cost-effectiveness. The commenter did not cite any regulatory language that would preclude incremental cost-effectiveness in considering the cost of compliance. With respect to using incremental visibility improvement, we acknowledge that the BART Guidelines do not explicitly address the issue of considering overall versus incremental visibility benefits. However, the EPA's response to comments when promulgating the BART Guidelines stated:

For example, a State can use the CALPUFF model to predict visibility impacts from an EGU in examining the option to control NO<sub>x</sub> and SO<sub>2</sub> with SCR technology and a scrubber, respectively. A comparison of visibility impacts might then be made with a modeling scenario whereby NO<sub>x</sub> is controlled by combustion technology. If expected visibility improvements are significantly different under one control scenario than under another, then a State may use that information, along with information on the other BART factors, to inform its BART determination.<sup>35</sup>

The EPA's regulations allow states to compare incremental cost-effectiveness and incremental visibility improvements between different technologies. The incremental visibility benefit is one way to compare the visibility improvements from various controls. Other states and the EPA have considered incremental visibility improvements in many BART determinations. For this BART determination, ADEQ weighed the small incremental visibility improvement against the incremental cost-effectiveness. Based on its weighing of these factors, ADEQ provided a reasoned justification for selecting LNB+SOFA as BART for Cholla Units 3 and 4, and properly exercised its discretion in its process for weighing the small visibility improvement against the cost-effectiveness to reject SCR and SNCR.

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<sup>34</sup> See 70 FR 39104 at 39127, July 6, 2005.

<sup>35</sup> *Id.* at 39129.

*Comment 4:* One commenter asserted that the EPA's analysis was flawed because it evaluated BART controls as if there was no existing BART determination in place for Units 3 and 4. The commenters opined that the EPA failed to analyze how various pollution controls and other measures would improve the BART Reassessment by eliminating any backsliding. The commenter recommended that the EPA evaluate installing SNCR in the next 18 months to improve the performance of the BART Reassessment beginning in 2018, and recommended four additional control strategies to reduce NO<sub>x</sub> emissions between 2018 and 2025: (1) setting an earlier deadline for Units 3 and 4 to shut down or switch to natural gas, (2) restricting Units 3 and 4 to the lowest capacity factor necessary between 2018 and 2025, (3) requiring the use of hybrid NO<sub>x</sub> reduction measures, *e.g.*, SNCR in combination with in-duct SCR catalysts, which the commenter said can be installed at far lower cost and more quickly than conventional SCR, and (4) a combination of the listed measures with SNCR. The commenter opined that if this analysis had been done, it would have shown that SNCR and other measures would significantly improve the BART reassessment by cost-effectively reducing NO<sub>x</sub> emissions from Units 3 and 4 prior to 2025.

*Response 4:* The EPA's role is to evaluate whether a state considered the appropriate factors and acted reasonably in doing so. In undertaking such a review, the EPA does not usurp a state's authority but ensures that such authority is reasonably exercised.

The commenter suggests that the EPA should have evaluated other NO<sub>x</sub> control measures that would result in greater emission reductions from the Cholla SIP Revision and be more comparable to the emission reductions that would have been achieved under the FIP for Cholla. As with Comment 2, we note that the commenter has not accurately described whether it was ADEQ or the EPA that performed (or would perform) specific analyses. In this action, the EPA

is reviewing the Cholla SIP Revision that was submitted for approval or disapproval. In that context, the issue is not whether the EPA should or will undertake the types of analysis recommended by the commenter, but whether ADEQ's failure to do so means that its BART determination cannot be approved. We have reviewed ADEQ's BART SIP for Cholla to determine whether it meets the requirements of the five-factor BART analysis, as outlined by the CAA, the RHR, and the BART Guidelines. ADEQ did not put forth a "better-than-BART" BART alternative pursuant to 40 CFR 51.308(e)(2), which would have required a comparison of emission reductions under BART and the BART alternative.<sup>36</sup> ADEQ properly evaluated the new commitments by APS and PacifiCorp related to future operation of Cholla Units 3 and 4 in determining BART for those units. For the purposes of its 110(l) analysis, ADEQ compared emissions of NO<sub>x</sub>, SO<sub>2</sub>, and PM<sub>10</sub> between its 2011 RH SIP and the Cholla SIP Revision, and also compared emissions of NO<sub>x</sub> between the FIP and the Cholla SIP Revision.<sup>37</sup> ADEQ appropriately concluded that the differences in emissions were not inconsistent with CAA section 110(l). Nothing in 110(l) of the CAA, RHR, or the BART Guidelines requires ADEQ to ensure that the emission reductions from the Cholla SIP Revision would be numerically equivalent to the reductions that would have been achieved under the previously applicable plan (*i.e.*, the FIP). Comments on ADEQ's 110(l) analysis, and the EPA's responses to those comments, are provided in Section II.C, below.

The commenter also suggests that the EPA (again, the commenter mistakenly refers to the EPA rather than ADEQ) should have evaluated additional operational restrictions on Cholla Units 3 and 4, *e.g.*, an earlier date for retirement or repowering to natural gas, or capacity

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<sup>36</sup> If ADEQ had done so, there would be a question posed as to whether it could at the same time re-determine BART in light of the changed plans for the operation of the Cholla units, or would have had to use the FIP as the benchmark. We do not address that question in this action.

<sup>37</sup> See Tables 5 – 8 in the Proposed Rule, 81 FR 46852, July 19, 2016.

restrictions between 2018 and 2025. Although an earlier retirement date or capacity restrictions would reduce emissions, in general, states and the EPA would not impose a retirement or capacity restriction unless it is requested by the facility operator, because capacity and retirement are not “retrofit technolog[ies]” (the term used in the CAA) or “system[s] of continuous emissions reductions” (the term used in the RHR definition of BART). The BART Guidelines state that potentially applicable retrofit control alternatives typically prevent the formation of pollutants (*e.g.*, LNB) or control or reduce emissions of pollutants after they are formed (*e.g.*, SNCR or SCR), or are a combination of these processes.<sup>38</sup> The BART Guidelines go on to say that “we do not consider BART as a requirement to redesign the source,” or to “direct States to switch fuel forms, *e.g.*, from coal to gas.”<sup>39</sup> Therefore, consideration of earlier retirement, repowering, or capacity restrictions that were not put forth by the facility operator, is not required by the BART Guidelines.

The commenter also suggests that the EPA (again, the commenter mistakenly refers to the EPA rather than ADEQ) should have evaluated SNCR with in-duct SCR catalysts, or a combination of SNCR with earlier retirement, repowering, or capacity restrictions. ADEQ was not required to consider earlier retirement, repowering, or capacity restrictions to be consistent with the BART Guidelines, and the combination of SNCR with those measures does not change our determination. Regarding SNCR combined with in-duct SCR catalysts, the commenter stated that in-duct SCR catalysts can be installed at lower cost than conventional SCR. Although the EPA is aware that the technologies for hybrid SNCR combined with in-duct SCR systems have been around since the 1990s, we are not aware of the widespread use of these hybrid systems on comparably-sized boilers, and the commenter did not provide any supporting data or information

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<sup>38</sup> See BART Guidelines at 70 FR 39104 at 39164, July 6, 2005.

<sup>39</sup> *Id.*

of sufficient specificity to indicate that this technology should have been considered under BART or that it would have changed ADEQ's BART determination.<sup>40</sup> Therefore, we continue to consider ADEQ's BART determination for Cholla Units 3 and 4 to be consistent with the BART Guidelines, including its evaluation of LNB+SOFA, SNCR, and SCR.

*Comment 5:* One commenter disagreed with the EPA's statement that a BART reassessment for Cholla is necessary based on new facts that have arisen since the EPA's final BART determination in 2012. The commenter further opined that even if new facts could be used to justify extending the BART compliance deadline, the new facts at issue here would not be sufficient justification. The commenter also stated that a business decision by the facility operator to close Unit 2 in advance of the 2017 BART compliance deadline for that unit should not justify allowing Units 3 and 4 to delay compliance past 5 years. The commenter argued that no statutory or regulatory provisions, related guidance, or prior BART determinations allow, let alone recognize, a utility's lowest cost option to govern the outcome of a BART determination.

*Response 5:* We disagree with the assertions in this comment and generally find that the commenter has misunderstood our proposed action and the Cholla SIP Revision. The EPA did not state that a BART reassessment is necessary, but we did indicate that ADEQ has discretion to reassess BART in light of new information and to seek approval from the EPA for a SIP revision to replace the FIP. As stated elsewhere in this final rule, the Cholla SIP Revision does not extend the BART compliance deadline. It replaces the compliance requirements in the FIP with different requirements and earlier compliance dates. The 0.22 lb/MMBtu emission limitation for NO<sub>x</sub> that

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<sup>40</sup> See, generally, discussion of in-duct SCR catalysts in "I-NO<sub>x</sub><sup>TM</sup> Integrated NO<sub>x</sub> Reduction Technology-A Lower Capital Cost Solution for NO<sub>x</sub> Reduction," March 26, 2015, at [http://www.mcilvainecompany.com/Decision\\_Tree/2015%20WEBINARS/March%202015/Stewart%20Bible,%20Fuel%20Tech%20-%20Hot%20Topic%20Hour%203-26-15.pdf](http://www.mcilvainecompany.com/Decision_Tree/2015%20WEBINARS/March%202015/Stewart%20Bible,%20Fuel%20Tech%20-%20Hot%20Topic%20Hour%203-26-15.pdf).



ADEQ determined to be BART will be effective upon the effective date of this final rule and, therefore, earlier than the FIP's BART deadline of December 5, 2017.

In the Cholla SIP Revision, ADEQ conducted a BART Reassessment based on the new facts that arose following the EPA's FIP for Cholla. In 2015, APS and PacifiCorp committed to several operational changes at Cholla that affect specific factors in the five-factor BART analysis, namely, the remaining useful life of the facility and its corresponding effects on the cost-effectiveness of controls. Based on the commitments from APS and PacifiCorp to close Unit 2 by April 1, 2016, continue operation of Units 3 and 4 with LNB+SOFA and permanently cease coal combustion in those units by April 30, 2025 with the option to convert to natural gas combustion by July 31, 2025 at a 20 percent or less average annual capacity factor, ADEQ conducted a revised BART analysis for Cholla Units 2, 3, and 4. ADEQ did not rely on the closure of Unit 2 to justify changes to the BART determination for Units 3 and 4. Rather, ADEQ reasonably determined that the enforceable closure of Unit 2 prior to December 5, 2017, satisfies the requirements of the RHR and the CAA for this unit. ADEQ then conducted a re-analysis of BART for Units 3 and 4 that considered the remaining useful life of potential control technologies in light of the commitments made by APS and PacifiCorp related to those units. Based on the changes to the cost effectiveness of controls, ADEQ reasonably rejected SNCR and SCR as too costly in comparison to the small additional visibility benefits, and concluded that the visibility benefits of SNCR or SCR controls after 2025, when coal combustion ceases and assuming those units are repowered to natural gas, would be negligible. ADEQ's final BART determination for Cholla Units 3 and 4 is an emission limitation of 0.22 lb/MMBtu that will be effective upon the effective date of this final rule. Therefore, we disagree that our proposal to

approve the Cholla SIP Revision extends any BART compliance deadlines, and we also disagree with the commenter that the new facts do not warrant a revised assessment of BART for Cholla.

Although we agree with the commenter that the RHR and BART Guidelines do not require BART determinations to align with a utility's lowest-cost option, we also note that this action is not based on the SIP revision's being the lowest-cost approach. If the FIP were to remain in place, APS would be free (with respect to CAA requirements) to cease coal combustion as a way to comply with the SCR-based BART emission limit, based on its own considerations.<sup>41</sup> In this case, APS and PacifiCorp have committed to cease coal combustion in Units 3 and 4 in 2025. Although the motivation for this commitment is irrelevant for purposes of the RHR, the state has discretion to reassess a BART determination for Cholla that takes into account the shorter period of coal combustion because of the potential effect this has on the five BART factors.

*Comment 6:* One commenter stated that the BART Reassessment will result in significant public health and environmental benefits, including very significant near-term and ongoing reductions in climate-disturbing pollution, toxic mercury, and particulate matter, and that the complete closure of Unit 2 has already resulted in some near-term benefits. The commenter described similar multi-pollutant BART approaches finalized elsewhere in the Southwest. The commenter cited to the Cholla SIP Revision to provide estimates of emission reductions from the BART Reassessment compared to the 2011 RH SIP: by 2046, the BART Reassessment will reduce cumulative SO<sub>2</sub> emissions by about 170,000 tons and cumulative PM<sub>10</sub> emissions by 15,000 tons compared to the 2011 RH SIP. In addition, the commenter estimates that when fully implemented (after 2026), the BART Reassessment will reduce CO<sub>2</sub> emissions by 90 percent

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<sup>41</sup> See BART Guidelines, 70 FR 39104 at 39171, July 6, 2005.

from current annual emissions and reduce mercury emissions from 430 pounds to three pounds per year.

*Response 6:* We agree with the commenter that the Cholla SIP Revision will result in significant near-term and ongoing environmental benefits. Although the BART Reassessment for Cholla focused on NO<sub>x</sub> reductions, emission reductions of other pollutants, as described by the commenter, also have occurred as a result of the closure of Unit 2 in 2015 and will occur after the closure or repowering to natural gas of Units 3 and 4 in 2025. In addition, we agree with the commenter that similar multi-pollutant approaches have been taken elsewhere, and we also note that approaches consisting of interim emission limitations combined with commitments to retire early or repower to natural gas are common, *e.g.*, a SIP revision (to replace a FIP) that put forth a revised BART determination for the four units at the San Juan Generating Station in New Mexico involving closure of two units by the end of 2017 and an emission limit of 0.23 lb/MMBtu, achievable with SNCR, on the remaining two units; a SIP revision (to replace a FIP) that put forth a revised SO<sub>2</sub> BART determination for two units at the Northeastern Power Station in Oklahoma involving closure of one unit in 2016 and interim emission limits and capacity restrictions leading to closure of the second unit by the end of 2026; a SIP revision (to replace a FIP) that put forth a BART alternative for two units at the Apache Generating Station in Arizona that involved conversion of one unit to natural gas and SNCR on the remaining coal-fired unit; as well as the EPA actions on the RH SIPs for Oregon and Washington approving the BART determinations for Boardman and Centralia involving interim emission limitations similar to those imposed on Cholla, and retirements around 2020 or 2025.<sup>42</sup>

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<sup>42</sup> See 79 FR 60985, October 9, 2014 (final action on revised BART determination for San Juan in New Mexico); 79 FR 12944, March 7, 2014 (final action on revised BART determination for Northeastern in Oklahoma); 80 FR 19220, April 10, 2015 (final action on alternative to BART for Apache in Arizona); 76 FR 38997, July 5, 2011 (final

*Comment 7:* One commenter noted that the BART Reassessment will result in higher NO<sub>x</sub> emissions and visibility impacts from 2018 to 2025 and therefore urged the EPA to examine whether those impacts could be mitigated through a lower continuous emission limit for SO<sub>2</sub> or other measures. The commenter noted that the current permitted SO<sub>2</sub> emission rates at Cholla do not reflect recent operating levels for SO<sub>2</sub>.

*Response 7:* In this action, we are reviewing the Cholla SIP Revision that was submitted for approval or disapproval. In that context, the issue is not whether the EPA should examine the types of mitigation measures recommended by the commenter, but whether ADEQ's failure to do so means that its BART determination cannot be approved. The EPA must evaluate whether a state considered the appropriate factors and acted reasonably in doing so. In undertaking such a review, the EPA does not usurp a state's authority but ensures that such authority is reasonably exercised.

The EPA agrees that NO<sub>x</sub> emissions and visibility impacts will differ between the Cholla SIP Revision and the provisions of the FIP that are being withdrawn, and that NO<sub>x</sub> emissions from Units 3 and 4 between 2018 and 2025 under the Cholla SIP Revision will be greater than emissions from those units under the Cholla FIP. However, after April 30, 2025, when APS and PacifiCorp permanently cease coal combustion in Units 3 and 4 with the option to convert to natural gas (at a 20 percent annual average capacity factor), emissions from the Cholla SIP Revision will be substantially lower than emissions from those units under the FIP. However, we acknowledge that in determining whether the BART Reassessment can be approved, we may not take into account these greater emission reductions in 2025 and thereafter.

Although a lower SO<sub>2</sub> emission limitation before 2025 would certainly be environmentally beneficial, we note that we have previously approved the SO<sub>2</sub> BART emission limits for Cholla.<sup>43</sup> ADEQ's new BART determination was for NO<sub>x</sub>, and we must approve it if it meets the requirements of the five-factor BART analysis, as outlined by the CAA, the RHR, and the BART Guidelines. ADEQ did not put forth a BART alternative pursuant to 40 CFR 51.308(e)(2), which would have required a comparison of emission reductions under BART and the BART alternative. ADEQ properly evaluated the new commitments by APS and PacifiCorp related to future operation of Cholla Units 3 and 4 in determining BART for those units. For the purposes of its 110(l) analysis, ADEQ did compare emissions of NO<sub>x</sub>, SO<sub>2</sub>, and PM<sub>10</sub> between its 2011 RH SIP and the Cholla SIP Revision, and compared emissions of NO<sub>x</sub> between the FIP and the Cholla SIP Revision.<sup>44</sup> ADEQ appropriately concluded that the differences in emissions that it found would not conflict with CAA section 110(l). Nothing in 110(l) of the CAA, the RHR, or the BART Guidelines required ADEQ to ensure that the numerical emission reductions from the Cholla SIP Revision would be equivalent to the reductions that would have been achieved under the FIP. Comments and the EPA's responses on ADEQ's 110(l) analysis are provided elsewhere in Section II.C.

*Comment 8:* One commenter noted that although it does not agree with every reason cited by the EPA in the proposed action, it urges the EPA to move forward to issue a final approval for the BART Reassessment.

*Response 8:* We are taking final action in this document to approve the Cholla SIP Revision and withdraw the provisions of the FIP that applied to Cholla.

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<sup>43</sup> See 77 FR 72511 (Dec. 5, 2012). We approved the SO<sub>2</sub> BART emission limits but promulgated FIP provisions for the compliance testing method because the SIP lacked those elements.

<sup>44</sup> See Tables 5 – 8 in the Proposed Rule, 81 FR 46852, July 19, 2016.

*Comment 9:* One commenter stated that it supports the EPA's proposed approval of the BART Reassessment for the following reasons: (1) the SIP revision includes enforceable emission limits, (2) the EPA's proposal is based on its own analysis of Arizona's SIP and the five-factor BART analysis, (3) the EPA appropriately considered Unit 1 as not BART-eligible, but included Unit 1 in the visibility modeling because the Cholla SIP Revision also requires that Unit 1 cease burning coal by April 30, 2025 with the option to repower to natural gas at a 20 percent capacity factor, (4) the BART Reassessment will provide for greater reasonable progress toward the final goal of natural conditions earlier than the original FIP, and (5) the EPA's analysis demonstrates that additional controls would provide only a small visibility improvement at a cost that is beyond what the EPA has required of any other BART-eligible EGU.

*Response 9:* We are taking final action in this document to approve the Cholla SIP Revision and withdraw the provisions of the FIP that applied to Cholla. However, we note that the commenter attributed to the EPA the analyses and conclusion that should actually be attributed to ADEQ.

#### B. Comments on Visibility Benefits

*Comment 10:* One commenter expressed concern that visibility benefits of installing various levels of NO<sub>x</sub> control on Units 3 and 4 were underestimated because the modeling included emissions from Unit 1 (at the same level in each NO<sub>x</sub> control scenario for Units 3 and 4), even though there is no enforceable commitment to retire Unit 1. The commenter cited to a discussion in the preamble to the BART Guidelines related to the effect of using existing conditions versus natural visibility conditions as the baseline for single source visibility impact determinations. The commenter argued that the inclusion of Unit 1 in the visibility modeling for Units 3 and 4 resulted in a decrease in the modeled benefit of installing controls on those units.

*Response 10:* We agree with the commenter that including Unit 1 in the modeling reduces the estimate of the visibility benefit of controls on Units 3 and 4. We also agree that if Unit 1 were part of some source other than Cholla, it should have been excluded from the modeling. However, the EPA does not agree that this procedure is incorrect given the fact that Unit 1 is part of the single source that is Cholla. While Unit 1 is, in some sense, “an existing condition” for purposes of evaluating the impacts of Units 3 and 4, it is very different than the “existing conditions” in the EPA statement cited by the commenter.<sup>45</sup> The BART Guidelines describe the ambient conditions to use in assessing the visibility impact of a source; consistent with the ultimate goal of the RHR, the visibility impact is assessed relative to natural conditions. The preamble to the BART Guidelines explains why a meaningful measure of visibility impacts and potential benefits for a single source requires the use of pristine natural background rather than existing conditions, which would reflect the impact of hundreds of existing sources.<sup>46</sup> This is not directly relevant to the issue of whether to include a single additional unit at the source being evaluated for BART. In practice, for modeling, source impacts are computed as delta deciviews, which is the difference in deciviews between the visibility due to the source combined with the natural background, and the visibility due to the natural background alone. In other words, all of the visibility impacts modeled with CALPUFF for the Cholla SIP Revision are relative to natural conditions, for the baseline and all control scenarios. The commenter seems to imply that including the emissions from Unit 1 is equivalent to assuming Unit 1 is part of natural conditions, which is not the case.

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<sup>45</sup> See BART Guidelines, 70 FR 39104 at 39124, July 6, 2005.

<sup>46</sup> *Ibid.* Given the nonlinear way in which visibility impairment is perceived, the dirtier the background conditions, the less a source’s emissions seem to affect it, “Using existing conditions as the baseline... would create the following paradox: the dirtier the existing air, the less likely it would be that any control is required. ... Such a reading would render the visibility provisions meaningless.”

In modeling for the Cholla SIP Revision, ADEQ had to choose whether to include the non-BART-eligible Unit 1 emissions that do not vary across the control scenarios for Units 3 and 4. This choice is not addressed by the BART Guidelines. Some BART analyses modeled individual units separately, whereas other BART analyses modeled all units together. Unit 1 is not part of the natural background, but it is part of the facility's emissions. The overall BART determination encompasses an understanding of the visibility impacts, including the particular procedures followed in modeling them. Several considerations suggest that including all units in an analysis is a reasonable choice. Including Unit 1 in the modeling provides a more realistic estimate of overall visibility impacts for the facility as a whole, and more realistically accounts for the chemistry that Units 3 and 4 plumes experience. The Unit 1 emissions may potentially shift the chemistry and may affect the formation of visibility-affecting particulate matter from Unit 3 and 4 emissions, for example as the NO<sub>x</sub>-derived nitrates in the three plumes compete for available ammonia in forming particulate ammonium nitrate. Another consideration, as stated by the commenter, is that including Unit 1 would tend to make the estimate of the benefit of controls on Units 3 and 4 smaller when the delta deciviews (relative to natural visibility conditions) are compared between control scenarios. This effect is expected to be small because the effect of including Unit 1 in the modeling would tend to be cancelled out when computing the benefit of controls. The benefit of controls is calculated by subtracting the visibility impacts (with controls applied) from the baseline impact; therefore, the effect of including Unit 1 in the modeling is captured in both terms. The EPA also examined this quantitatively by using the change in total emissions from excluding Unit 1 to scale the modeled estimates of visibility, and then recalculating the deciview impacts and benefits of controls. The estimated visibility benefits at Petrified Forest National Park (the Class I area most affected by emissions from Cholla) from



the use of SCR or SNCR on Units 3 and 4 increased by approximately 5 percent when Unit 1 was excluded.<sup>47</sup> We would not consider a 5 percent increase in the visibility benefits of SCR or SNCR to justify disapproving the Cholla SIP Revision. Moreover, the modeled benefits of LNB+SOFA on Units 3 and 4 would also be higher if Unit 1 were excluded from the modeling, so the change in the incremental benefit of SCR or SNCR would be small.

In summary, although we agree with the comment that inclusion of Unit 1 in the visibility modeling decreases the modeled visibility benefits of controls on Units 3 and 4, the effect on the estimated visibility benefits of controls is small, and the BART Guidelines do not speak directly to this question. Therefore, the EPA has determined that ADEQ has reasonably exercised its discretion to include Unit 1 in its modeling analysis.

*Comment 11:* One commenter recommended that the EPA consider the net (not incremental) benefit of installing SNCR on Units 3 and 4. The commenter noted that even the incremental visibility benefit of SNCR of 0.28 deciview at the Class I area most affected by Cholla (Petrified Forest National Park) compares well with the net visibility benefits of other BART determinations made by the EPA in FIPs, which ranged from 0.18 – 0.32 deciview.

*Response 11:* As discussed elsewhere in this final rule, with regard to incremental visibility improvement, the EPA's response to comments for promulgating the BART Guidelines stated:

For example, a State can use the CALPUFF model to predict visibility impacts from an EGU in examining the option to control NO<sub>x</sub> and SO<sub>2</sub> with SCR technology and a scrubber, respectively. A comparison of visibility impacts might then be made with a modeling scenario whereby NO<sub>x</sub> is controlled by combustion technology. If expected visibility improvements are significantly different under one control scenario than under another,

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<sup>47</sup> See “vis\_impacts” tab in the spreadsheet titled “Cholla\_pefo\_ul\_effect.xlsx,” in the docket for this rulemaking.

then a State may use that information, along with information on the other BART factors, to inform its BART determination.<sup>48</sup>

The EPA's regulations allow states to compare incremental visibility improvements between different technologies. The incremental visibility benefit is one way to compare the visibility improvements from various controls. For this BART determination, ADEQ weighed the small incremental visibility improvement against the incremental cost-effectiveness, as well as the timing and short duration of this benefit. Based on its weighing of these factors, ADEQ provided a reasoned justification for selecting LNB+SOFA as BART for Cholla Units 3 and 4. We have concluded that ADEQ properly exercised its discretion in its process for weighing the small visibility improvement against the cost-effectiveness to reject SCR and SNCR.

The commenter notes that even the incremental benefit of SNCR relative to LNB/SOFA is comparable to benefits seen in previous BART assessments, at least for the Class I area with the greatest impact. Visibility is only one of the five factors in a BART assessment, and in particular must be considered together with the anticipated costs of controls. As stated previously, the EPA's role is to decide whether the state's SIP is approvable by evaluating if the Cholla SIP Revision meets the requirements of the CAA, the RHR, and the BART Guidelines. In undertaking such a review, the EPA does not usurp a state's authority but ensures that such authority is reasonably exercised. The CAA and the RHR provide flexibility to the state in deciding how the factors in the analysis are weighed. We have concluded that ADEQ properly exercised its discretion in its process for weighing the small visibility improvement against the cost-effectiveness to reject SCR and SNCR.

#### C. Comments on the CAA section 110(l) Analysis

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<sup>48</sup> See 70 FR 39129, July 6, 2005.

*Comment 12:* One commenter asserted that the EPA's proposal violates CAA section 110(l) anti-backsliding requirements because it weakens the existing BART determination for Cholla. The commenter argued that the BART Reassessment is inconsistent with the EPA's long-standing interpretation of section 110(l) of the CAA as preventing implementation plan revisions that would increase overall air pollution or worsen air quality. The commenter stated that the effect of the BART Assessment would be to allow Units 3 and 4 to emit an additional 4,161 tons of NO<sub>x</sub> per year every year between 2018 and 2024, and would result in worse visibility conditions than the existing BART determination. The commenter went on to assert that the EPA's conclusions that the BART Reassessment complies with 110(l) are not justified because the EPA inappropriately discounted the timing of pollution reductions and the importance of promptly reducing pollution and improving visibility. The commenter argued that it is contrary to the purposes of the regional haze program and 110(l) to trade worse air quality and increased air pollution in the short term for potential benefits that may arise years from now. The commenter expressed concern that the EPA's BART Reassessment, if finalized, would set troubling precedent for the Coronado Generating Station BART Reassessment put forth for public comment by ADEQ in July 2016.

The commenter argued that the EPA's proposed approval of the Cholla SIP Revision is contrary to the requirements of CAA section 110(l). The commenter cited to case law (identified in our response below) to support its interpretation that additional air emissions or less stringent requirements occurring as a result of a SIP revision *per se* constitute a violation of CAA section 110(l). Specifically, the commenter argued that CAA section 110(l) prohibits the EPA from approving a SIP revision that is less stringent than the FIP it is replacing, stating, "This section prohibits states and EPA from revising an implementation plan if the revision would weaken the

existing plan's requirements." The commenter supported its assertion that the SIP revision weakens the requirements of the existing FIP by noting that the SIP revision will allow Cholla to emit 4,161 tons per year more NO<sub>x</sub> between 2018 and 2025 than would have been allowed pursuant to the FIP. The commenter characterized the EPA's proposed approval of the SIP revision as relying on two factors for demonstrating compliance with section 110(l), stating:

According to EPA, the proposal complies with section 110(l) because (1) there are "differences in the facts underlying" the existing BART determination and the BART "reassessment," and (2) the BART "reassessment" would "result in greater visibility improvement than the existing [BART determination] beginning in 2026, which is consistent with the long-term national goal of restoring natural visibility conditions at Class I areas." Neither justification demonstrates that the BART "reassessment" complies with section 110(l).

*Response 12:* As discussed in more detail below, the EPA disagrees with the commenter's legal interpretation that CAA section 110(l) is violated *per se* by any SIP revision that allows an increase in actual air emissions relative to the existing implementation plan. The EPA also disagrees with the characterization of our proposed section 110(l) analysis as relying only on the two factors quoted above.

The CAA section 110(l) states in relevant part: "The Administrator shall not approve a revision of a plan if the revision would interfere with any applicable requirement concerning attainment and reasonable further progress (as defined in section 7501 of this title), and any other applicable requirement of this chapter." This language does not prohibit every SIP revision that weakens the existing plan's requirements.<sup>49</sup> The statutory language of section 110(l) does not support the commenter's interpretation that additional air emissions or less stringent

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<sup>49</sup> See, e.g., the EPA's action to approve a revision to the New Mexico SIP that addressed the BART requirement for NO<sub>x</sub> for the San Juan Generating Station in New Mexico, 79 FR 60985 at 60989, October 9, 2014, stating "Finally, contrary to the commenter's assertion, CAA section 110(l) does not prohibit a state from submitting a SIP that is less stringent than a FIP."

requirements occurring as a result of a SIP revision *per se* constitutes a violation of CAA section 110(l), and neither does the case law cited by the commenter.

The cases cited by the commenter fail to support the commenter's view. In *El Comité para el Bienestar de Earlimart v. U.S. EPA*, the Ninth Circuit was addressing a different issue – whether the EPA reasonably determined the level of emission reductions resulting from a particular SIP Revision. The court was not considering a SIP revision that allowed increased emissions.<sup>50</sup> There, the EPA had consistently determined that a SIP provision required a 12 percent decrease in emissions despite the petitioner's contrary interpretation that the provision required a 20 percent reduction. The court deferred to the EPA's reasonable interpretation, and concluded "that the EPA did not arbitrarily and capriciously fail to consider whether the SIP Revision violated § 110(l) of the Act, because it reasonably interpreted the Pesticide Element as committing to a 12 percent reduction in VOC emissions from 1990 levels by 1999 in the San Joaquin Valley."<sup>51</sup> The case does not support the commenter's interpretation of section 110(l).

The other cases cited by the commenter also fail to support the commenter's interpretation. In *Kentucky Resource Council v. EPA*, the court upheld the EPA's approval of a SIP revision that moved a vehicle inspection and maintenance program from the SIP to a contingency measure.<sup>52</sup> The court examined the EPA's analysis that the SIP revision would not "interfere" with attainment and reasonable further progress (RFP). As an initial matter, the court rejected an expansive reading of section 110(l), stating:

The statute prohibits approval of a revision that "**would** interfere" with an applicable requirement. Petitioner's reading of the phrase would substitute "could" for "would." On this point it seems fairly clear that Congress did

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<sup>50</sup> See 786 F.3d 688 (9<sup>th</sup> Cir. 2015).

<sup>51</sup> Id. at 697 (emphasis in original).

<sup>52</sup> 467 F.3d 986 (6<sup>th</sup> Circuit 2006)

not intend that the EPA reject each and every SIP revision that presents some remote possibility for interference.<sup>53</sup>

In *Kentucky Resource Council*, the SIP substituted other emissions reductions to make up for the increased emissions from moving the vehicle inspection and maintenance program to a contingency measure. The issue was whether the EPA could approve this change without requiring an attainment demonstration and the court upheld the EPA's decision that a new attainment demonstration was not required in order to show that the SIP revision would not interfere pursuant to section 110(l). Thus, the examination of whether the SIP revision would "worsen air quality" was based on whether the area – which, unlike Navajo County, was designated as a nonattainment area for the relevant NAAQS – would have more difficulty in attaining and maintaining the NAAQS with the SIP revision – not, as the commenter argues here, whether the SIP revision would simply result in increased emissions.<sup>54</sup>

The critical question under section 110(l) is not whether the SIP revision will cause an increase in actual emissions, it is whether that increase in actual emissions will interfere with attainment of the NAAQS or RFP, or if the SIP revision interferes with any other applicable requirement of the CAA. The fact that actual emissions will increase means that the EPA's analysis must include an evaluation of how that emissions increase affects attainment and RFP and other applicable requirements of the CAA.

The EPA analyzed the requirements of section 110(l) in proposing to approve the Cholla SIP revision.<sup>55</sup> The commenter fails to acknowledge much of the EPA's analysis. The

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<sup>53</sup> Id. at 994.

<sup>54</sup> The additional case law cited by the commenter, *Alabama Environmental Council v. EPA* 711 F.3d 1277 (11<sup>th</sup> Circuit 2013), which relied on the same analysis as the *Kentucky Resource Council* case, and *WildEarth Guardians v. EPA* 759 F.3d 1064 (9<sup>th</sup> Circuit 2014), where the court found that petitioners had not identified any provision of the SIP revision at issue which weakened pollution controls, are similarly unavailing.

<sup>55</sup> 81 FR 46852 at 46862, July 19, 2016.

commenter is incorrect that the EPA's proposal only relied on different facts and greater long term visibility benefits after 2026 to support approval. Rather, our proposal considered that fact that Navajo County, where the facility is located, is attaining the NAAQS for all pollutants.<sup>56</sup> In addition, the proposal relied on the fact that the Cholla SIP revision will result in substantially lower SO<sub>2</sub> and PM<sub>10</sub> emissions than would have been allowed by the FIP. Finally, for NO<sub>x</sub> emissions, the EPA's proposal stated, "While the Cholla SIP Revision will require fewer NO<sub>x</sub> reductions than the FIP between 2018 and 2025, it will ensure that *NO<sub>x</sub> emissions remain at or below current levels . . . until 2025. . .*" (emphasis added).<sup>57</sup> Based on these facts, the EPA's proposal stated:

Thus, the Arizona SIP does not currently rely on emission limitations at Cholla to satisfy any attainment or RFP requirements. Given that the Cholla SIP Revision will result in equivalent or lower emissions of NO<sub>x</sub>, PM<sub>10</sub> and SO<sub>2</sub> for all future years, compared to current emission levels, in an area that is designated attainment or has not yet been designated for all NAAQS, we propose to find that the Cholla SIP Revision would not interfere with any applicable requirement concerning attainment or RFP.

The comment letter does not appear to challenge the EPA's analysis that the SIP revision does not interfere with attainment or RFP for the reasons discussed above, but rather simply asserts that any increase in emissions automatically violates section 110(l).<sup>58</sup>

CAA section 110(l) also requires the EPA to evaluate if the SIP revision will interfere with "any other applicable requirement of this chapter." The EPA's proposal to approve the Cholla SIP Revision also carefully analyzed this requirement.<sup>59</sup> The commenter challenges only the EPA's proposal to find that the SIP revision complies with the requirements of the RHR. We disagree with this comment. The commenter notes that the Cholla SIP Revision is predicted to

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<sup>56</sup> *Id.* at 46862.

<sup>57</sup> *Id.* at 46863.

<sup>58</sup> As noted previously, the commenter applies an incorrect legal standard, insisting that any SIP revision that is less stringent than the existing SIP or FIP requirement violates section 110(l).

<sup>59</sup> 81 FR 46852 at 46862, July 19, 2016.

result in higher visibility impairment at Petrified Forest National Park than the FIP from 2018 to 2025. We agree. As discussed in our proposed rule, in its section 110(l) analysis, ADEQ stated that the Cholla SIP Revision would result in less visibility improvement between 2018 and 2025, but would result in greater improvements starting in 2026.<sup>60</sup> This does not, however, support the argument that the SIP will interfere with the requirements of the visibility program. As discussed above, we have determined that the Cholla SIP Revision meets the BART requirements. We also proposed that the Cholla SIP Revision would not interfere with the RHR because the achievement of greater visibility improvement from the Cholla SIP Revision beginning in 2026 would be consistent with the long-term national goal of the RHR of restoring visibility conditions at Class I areas.<sup>61</sup> We further noted that while the Cholla SIP Revision would require fewer NO<sub>x</sub> reductions than the FIP between 2018 and 2025, it would ensure that NO<sub>x</sub> emission remain at or below current levels until 2025, after which time it would require a substantial reduction in NO<sub>x</sub> emissions compared to both current levels and the FIP.<sup>62</sup>

The commenter challenges our proposed finding that the SIP revision meets the requirements for BART. Our proposal concluded that the Cholla SIP Revision is consistent with BART, and therefore does not interfere with an applicable requirement of the CAA and the RHR.<sup>63</sup> For the reasons discussed in responses to other comments, ADEQ conducted an adequate BART analysis for Cholla. ADEQ considered the appropriate factors and reached a reasonable conclusion. Our analysis that the Cholla SIP Revision is approvable pursuant to CAA section 110(l) considered compliance with BART and also considered that “the Cholla SIP Revision would result in greater visibility improvement than the existing SIP and FIP requirements

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<sup>60</sup> *Id.* at 46859.

<sup>61</sup> *Id.* at 46862.

<sup>62</sup> *Id.*

<sup>63</sup> *Id.*



beginning in 2026, which is consistent with the long-term national goal of restoring natural visibility conditions at Class I areas.”<sup>64</sup> The commenter contends that the EPA was justifying “weakening” the Arizona SIP and allowing “backsliding” based on new or different facts. That is not the case. The EPA was evaluating whether the SIP revision complied with the requirements for BART, which it does. The proposal then stated:

Furthermore, the Cholla SIP Revision would result in greater visibility improvement than the existing SIP and FIP requirements beginning in 2026, which is consistent with the long term national goal of restoring natural visibility conditions at Class I areas.

The commenter construes this statement incorrectly, asserting that this statement means the EPA is justifying compliance with section 110(l) by crediting later emission reductions to offset earlier emission increases. As noted earlier, section 110(l) does not prohibit approving a SIP revision that allows an increase in actual emissions provided it does not interfere with attainment of the NAAQS, RFP, or any other applicable requirement. All of those criteria have been met for the reasons discussed above. The EPA, however, noted that the substantial emissions reductions from the Cholla SIP Revision – both those occurring from the shutdown of Unit 2 in 2016 and additional NO<sub>x</sub> reductions in 2025 – will support efforts to meet the RHR goal of reaching natural visibility in 2064.

For the reasons discussed above, the EPA disagrees with the commenter that our approval of the Cholla SIP revision is inconsistent with CAA section 110(l).

#### D. Other Comments

*Comment 13:* One commenter argued that the EPA’s proposal negates the 2018 reasonable progress goals (RPGs) for Arizona. The EPA set 2018 RPGs for Arizona in its Final

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<sup>64</sup> *Id.*

Phase 3 Rule that relied upon the emission reductions required by its regional haze FIP for Arizona. The commenter asserted that in delaying Cholla's compliance with its BART obligations past 2017, the BART Reassessment necessitates the development of entirely new 2018 RPGs.

*Response 13:* The EPA disagrees with the comment that the Cholla SIP Revision negates or otherwise adversely effects the 2018 RPGs for Arizona. The 2018 RPGs account for emission reductions expected to occur by the end of the first planning period. The compliance date for the NO<sub>x</sub> emission reductions, achievable with SCR, required in the FIP for Cholla was December 5, 2017. As noted in our proposed rule, the anticipated NO<sub>x</sub> reductions in 2018 from Units 3 and 4 associated with the FIP would have been 4,763 tons more than the reductions from those units under the Cholla SIP Revision for that year. However, cumulative NO<sub>x</sub> reductions in 2016 and 2017, from the Cholla SIP Revision, would be 6,302 tons greater than the FIP for Cholla as a result of the closure of Unit 2.<sup>65</sup> In addition, the closure of Unit 2 required in the Cholla SIP Revision also results in additional reductions in SO<sub>2</sub> and PM<sub>10</sub> in 2016 and 2017.<sup>66</sup> Because the NO<sub>x</sub>, SO<sub>2</sub>, and PM<sub>10</sub> reductions from the Cholla SIP Revision are greater than the reductions that would have occurred under the FIP in 2016, 2017, and 2018, and because the 2018 RPGs consider emission reductions that occur until the end of 2018, the Cholla SIP Revision aids, rather than negates, the 2018 RPGs.

As discussed elsewhere in this final rule, we disagree with the commenter's characterization that the Cholla SIP Revision is delaying the compliance deadline for BART beyond December 5, 2017. We are approving ADEQ's determination for Cholla Units 3 and 4

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<sup>65</sup> See Table 8 in our proposed rule at 81 FR 46852, 46858 (July 19, 2016). We further note that the emission reductions in Table 8 associated with Unit 2 are based on the operation of Unit 2 until April 1, 2016. Because Unit 2 closed in 2015, the actual emission reductions from Unit 2 in 2016 would be lower than estimated in our proposed rule.

<sup>66</sup> *Id.* Tables 6 and 7.

that BART is the use of LNB+SOFA. The emission limitations associated with this BART determination will become effective on **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

Finally, although the Cholla SIP Revision will result in greater NO<sub>x</sub> emissions than the FIP from Cholla Units 3 and 4 between December 5, 2017 and April 30, 2025, the requirements in the Cholla SIP Revision to permanently retire Unit 2 by April 1, 2016, combined with the permanent cessation of coal combustion in Units 1, 3, and 4 by April 30, 2025 and the potential conversion of those units to natural gas by July 31, 2025, will aid Arizona's RPGs more than we had originally attributed to the FIP provisions we are withdrawing in this action.

*Comment 14:* One commenter noted that if the EPA takes final action to approve the BART Reassessment and withdraw the FIP for Cholla, a provision in 40 CFR 52.145(f)(5)(i)(A) that requires continuous emission monitoring systems (CEMS) for SO<sub>2</sub> at Cholla Units 2, 3, and 4 to be in full compliance with the requirements in 40 CFR part 75, will be duplicative because that requirement is already contained in the Cholla SIP Revision. The commenter requests that the EPA remove Cholla completely from the final version of the regulatory text that will be codified at 40 CFR 52.145.

*Response 14:* The EPA agrees with the comment that the Arizona RH FIP provisions should not contain any provisions related to Cholla after the EPA takes final action to withdraw the provisions in 40 CFR 52.145 that are applicable to this facility. As stated in our proposed rule, "we propose to withdraw the provisions of the Arizona Regional Haze FIP that apply to Cholla;" the retention of the reference to Cholla in 40 CFR 52.145(f)(5)(i)(A) was inadvertent.<sup>67</sup> We also agree with the commenter that the condition is duplicative to the requirement already

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<sup>67</sup> See 81 FR 46852 at 46863, July 19, 2016.

contained in the Cholla permit revision that was submitted as part of the Cholla SIP Revision. Therefore, in this final action, we are removing from 40 CFR 52.145(f)(5)(i)(A) the sentence that reads: “In addition, the owner/operator of Cholla Units 2, 3, and 4 shall calibrate, maintain, and operate a CEMS, in full compliance with the requirements found in 40 CFR part 75, to accurately measure SO<sub>2</sub> emissions and diluent at the inlet of the sulfur dioxide control device.” The remaining provisions in 40 CFR 52.145(f)(5)(i)(A) will continue to exist and apply to the Coronado Generating Station.

### *III. Summary of Final Action*

For the reasons described above, the EPA is taking final action to approve the Cholla SIP Revision. Because this approval fills the gap in the Arizona RH SIP that was left by the EPA’s prior partial disapproval with respect to Cholla, we are also taking final action to withdraw the provisions of the FIP that applied to Cholla. This final action also constitutes our action on the petitions for reconsideration submitted by APS and PacifiCorp on the FIP.

### *IV. Environmental Justice Considerations*

As shown in Tables 6 and 7 of the proposed rule, the Cholla SIP Revision will result in lower emissions of both PM<sub>10</sub> and SO<sub>2</sub> compared to the emissions we had previously projected under the existing requirements beginning in 2016, with greater emission reductions from the Cholla SIP Revision occurring over time (i.e., in the periods 2017-2025, and 2026 and thereafter).<sup>68</sup> As shown in Table 8 of the proposed rule, the Cholla SIP Revision will result in greater NO<sub>x</sub> emissions than the FIP between 2018 and 2025, but will achieve substantially lower NO<sub>x</sub> emissions than the FIP in 2016, 2017, and 2026 and thereafter.<sup>69</sup> In addition, as noted in our proposed rule, Cholla is located in Navajo County, Arizona, which is currently designated as

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<sup>68</sup> See 81 FR 46852 at 46857-46858, July 18, 2016.

<sup>69</sup> *Id.* at 46858-46859.

attainment or unclassifiable for the following NAAQS: carbon monoxide, lead, nitrogen dioxide, ozone (2008 NAAQS), PM<sub>2.5</sub> (1997 and 2006 NAAQS), PM<sub>10</sub>, and SO<sub>2</sub> (1971 NAAQS). ADEQ also noted in its submittal that it has recommended a designation of attainment/unclassifiable for this area for the 2012 PM<sub>2.5</sub> and 2010 SO<sub>2</sub> standards. Therefore, this final action will not have potential disproportionately high and adverse human health or environmental effects on minority, low-income, or indigenous populations.

#### *V. Incorporation by Reference*

In this rule, the EPA is finalizing regulatory text that includes incorporation by reference. In accordance with the requirements of 1 CFR 51.5, the EPA is finalizing the incorporation by reference “Significant Permit Revision No. 61713 to Operating Permit No. 53399” issued by ADEQ on October 16, 2015. Therefore, these materials have been approved by the EPA for inclusion in the SIP, have been incorporated by reference by the EPA into that plan, are fully federally enforceable under sections 110 and 113 of the CAA as of the effective date of this final rule, and will be incorporated by reference by the Director of the *Federal Register* in the next update to the SIP compilation.<sup>70</sup> The EPA has made, and will continue to make, this document available electronically through [www.regulations.gov](http://www.regulations.gov) and in hard copy at the EPA Region IX Office. Please contact the person identified in the “**FOR FURTHER INFORMATION CONTACT**” section of this preamble for more information.

#### *VI. Statutory and Executive Order Reviews*

Additional information about these statutes and Executive Orders can be found at <http://www2.epa.gov/laws-regulations/laws-and-executive-orders>.

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<sup>70</sup> 62 FR 27968, May 22, 1997.

*A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563:  
Improving Regulation and Regulatory Review*

This action is not a significant regulatory action and was therefore not submitted to the Office of Management and Budget (OMB) for review. This rule applies to only one facility and is therefore not a rule of general applicability.

*B. Paperwork Reduction Act (PRA)*

This action does not impose an information collection burden under the provisions of the PRA. Burden is defined at 5 CFR 1320.3(b).

*C. Regulatory Flexibility Act (RFA)*

I certify that this final action will not have a significant economic impact on a substantial number of small entities. This action will not impose any requirements on small entities. Firms primarily engaged in the generation, transmission, and/or distribution of electric energy for sale are small if, including affiliates, the total electric output for the preceding fiscal year did not exceed 4 million megawatt hours. The two owners of Cholla, APS and PacifiCorp, exceed this threshold.

*D. Unfunded Mandates Reform Act (UMRA)*

This action does not contain any unfunded mandate as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. This action does not impose additional requirements beyond those imposed by state law. Accordingly, no additional costs to State, local, or tribal governments, or to the private sector, will result from this action.

*E. Executive Order 13132: Federalism*

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

*F. Executive Order 13175: Coordination with Indian Tribal Governments*

This action does not have tribal implications, as specified in Executive Order 13175, because the SIP is not approved to apply on any Indian reservation land or in any other area where the EPA or an Indian tribe has demonstrated that a tribe has jurisdiction, and will not impose substantial direct costs on tribal governments or preempt tribal law. Thus, Executive Order 13175 does not apply to this action.

*G. Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks*

The EPA interprets Executive Order 13045 as applying only to those regulatory actions that concern environmental health or safety risks that the EPA has reason to believe may disproportionately affect children, per the definition of “covered regulatory action” in section 2-202 of the Executive Order. This action is not subject to Executive Order 13045 because it does not impose additional requirements beyond those imposed by state law.

*H. Executive Order 13211: Actions that Significantly Affect Energy Supply, Distribution, or Use*

This action is not subject to Executive Order 13211, because it is not a significant regulatory action under Executive Order 12866.

*I. National Technology Transfer and Advancement Act (NTTAA)*

This rulemaking does not involve technical standards.

*J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Population*

The EPA believes the human health or environmental risk addressed by this action will not have potentially disproportionately high and adverse human health or environmental effects on minority, low-income or indigenous populations. Although this final action to approve the Cholla SIP Revision will result in greater NO<sub>x</sub> emissions than we had previously projected to occur under the FIP it replaces over the 2018-2025 period, emissions of PM<sub>10</sub> and SO<sub>2</sub> will be lower under the Cholla SIP Revision beginning in 2016, with greater emission reductions from the Cholla SIP Revision occurring over time (*i.e.*, in the periods 2017-2025, and 2026 and thereafter). In addition, the Cholla SIP Revision will result in greater NO<sub>x</sub> reductions than the FIP in 2016, 2017, and 2026 and thereafter. In addition, as noted in our proposed rule, Cholla is located in Navajo County, Arizona, which is currently designated as attainment or unclassifiable for the following NAAQS: carbon monoxide, lead, nitrogen dioxide, ozone (2008 NAAQS), PM<sub>2.5</sub> (1997 and 2006 NAAQS), PM<sub>10</sub>, and SO<sub>2</sub> (1971 NAAQS). ADEQ also noted in its submittal that it has recommended a designation of attainment/unclassifiable for this area for the 2012 PM<sub>2.5</sub> and 2010 SO<sub>2</sub> standards. Therefore, this final action will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations.

*K. Congressional Review Act (CRA)*

This rule is exempt from the CRA because it is a rule of particular applicability. EPA is not required to submit a rule report regarding this action under section 801 because this is a rule of particular applicability that only applies to a single named facility.

*L. Petitions for Judicial Review*

Under section 307(b)(1) of the Clean Air Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.



Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this rule for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements (see section 307(b)(2)).

**List of Subjects in 40 CFR Part 52**

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Nitrogen dioxide, Particulate matter, Reporting and recordkeeping requirements, Sulfur dioxide, Visibility.

Dated: March 16, 2017.

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E. Scott Pruitt,  
Administrator.

Part 52, chapter I, title 40 of the Code of Federal Regulations is amended as follows:

**PART 52—APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS**

1. The authority citation for part 52 continues to read as follows:

**AUTHORITY:** 42 U.S.C. 7401 *et seq.*

**Subpart D—Arizona**

2. Section 52.120 is amended by:

a. Adding in paragraph (d), under the table heading “EPA-Approved Source-Specific Requirements” an entry for “Cholla Power Plant” after the entry for “Arizona Electric Power Cooperative’s Apache Generating Station.”

b. Adding in paragraph (e), under the table heading “Table 1 – EPA-Approved Non-Regulatory and Quasi-Regulatory Measures” after the entry for “Arizona Lead SIP Revision”, an entry for “Arizona State Implementation Plan Revision to the Arizona Regional Haze Plan for Arizona Public Service Cholla Generating Station.”

The additions read as follows:

**§ 52.120 Identification of plan.**

\* \* \* \* \*

(d) \* \* \*

**EPA-APPROVED SOURCE-SPECIFIC REQUIREMENTS**

Name of source	Order/permit No.	Effective date	EPA approval date	Explanation
<b>Arizona Department of Environmental Quality</b>				
*****				
Cholla Power Plant	Significant Permit Revision No. 61713 to Operating Permit No. 53399	October 16, 2015	[INSERT DATE OF PUBLICATION], [INSERT <i>Federal Register</i> CITATION]	Permit issued by Arizona Department of Environmental Quality. Submitted on

				October 22, 2015.
*****				

(e) \* \* \*

**TABLE 1—EPA-APPROVED NON-REGULATORY AND QUASI-REGULATORY MEASURES**  
 [Excluding certain resolutions and statutes, which are listed in tables 2 and 3, respectively]<sup>1</sup>

Name of SIP provision	Applicable geographic or nonattainment area or title/subject	State submittal date	EPA approval date	Explanation
<b>The State of Arizona Air Pollution Control Implementation Plan</b>				
<b>Clean Air Act Section 110(a)(2) State Implementation Plan Elements (Excluding Part D Elements and Plans)</b>				
*****				
Arizona State Implementation Plan Revision to the Arizona Regional Haze Plan for Arizona Public Service Cholla Generating Station	Source-Specific	October 22, 2015	[INSERT DATE OF PUBLICATION], [INSERT <i>Federal Register</i> CITATION]	Revised source-specific BART limits for NO <sub>x</sub> for Cholla Power Plant adopted October 22, 2015.
*****				

<sup>1</sup> Table 1 is divided into three parts: Clean Air Act Section 110(a)(2) State Implementation Plan Elements (excluding Part D Elements and Plans), Part D Elements and Plans (other than for the Metropolitan Phoenix or Tucson Areas), and Part D Elements and Plans for the Metropolitan Phoenix and Tucson Areas.

\* \* \* \* \*

3. Section 52.145 is amended by revising paragraphs (f)(1) through (5) and (10) to read as

follows:

**§ 52.145 Visibility protection.**

\* \* \* \* \*

(f) \* \* \*

(1) *Applicability.* This paragraph (f) applies to each owner/operator of the following coal-fired electricity generating units (EGUs) in the state of Arizona: Coronado Generating Station, Units 1 and 2. The provisions of this paragraph (f) are severable, and if any provision of this paragraph (f), or the application of any provision of this paragraph (f) to any owner/operator or circumstance, is held invalid, the application of such provision to other owner/operators and other circumstances, and the remainder of this paragraph (f), shall not be affected thereby.

(2) *Definitions.* Terms not defined below shall have the meaning given to them in the Clean Air Act or EPA's regulations implementing the Clean Air Act. For purposes of this paragraph (f): *ADEQ* means the Arizona Department of Environmental Quality.

*Boiler-operating day* means a 24-hour period between 12 midnight and the following midnight during which any fuel is combusted at any time in the unit.

*Coal-fired unit* means any of the EGUs identified in paragraph (f)(1) of this section.

*Continuous emission monitoring system or CEMS* means the equipment required by 40 CFR part 75 and this paragraph (f).

*Emissions limitation or emissions limit* means any of the Federal Emission Limitations required by this paragraph (f) or any of the applicable PM<sub>10</sub> and SO<sub>2</sub> emissions limits for Coronado Generating Station submitted to EPA as part of the Arizona Regional Haze SIP in a letter dated February 28, 2011, and approved into the Arizona State Implementation Plan on December 5, 2012.

*Flue Gas Desulfurization System or FGD* means a pollution control device that employs flue gas desulfurization technology, including an absorber utilizing lime, fly ash, or limestone slurry, for the reduction of sulfur dioxide emissions.

*Group of coal-fired units* means Units 1 and 2 for Coronado Generating Station.

*lb* means pound(s).

*MMBtu* means million British thermal unit(s).

*NO<sub>x</sub>* means nitrogen oxides expressed as nitrogen dioxide (NO<sub>2</sub>).

*Owner(s)/operator(s)* means any person(s) who own(s) or who operate(s), control(s), or supervise(s) one or more of the units identified in paragraph (f)(1) of this section.

*Operating hour* means any hour that fossil fuel is fired in the unit.

*PM<sub>10</sub>* means filterable total particulate matter less than 10 microns and the condensable material in the impingers as measured by Methods 201A and 202 in 40 CFR part 51, appendix M.

*Regional Administrator* means the Regional Administrator of EPA Region IX or his/her authorized representative.

*SO<sub>2</sub>* means sulfur dioxide.

*SO<sub>2</sub> removal efficiency* means the quantity of SO<sub>2</sub> removed as calculated by the procedure in paragraph (f)(5)(iii)(B) of this section.

*Unit* means any of the EGUs identified in paragraph (f)(1) of this section.

*Valid data* means data recorded when the CEMS is not out-of-control as defined by 40 CFR part 75.

(3) *Federal emission limitations--(i) NO<sub>x</sub> emission limitations.* The owner/operator of each coal-fired unit subject to this paragraph (f) shall not emit or cause to be emitted NO<sub>x</sub> in excess of the following limitations, in pounds per million British thermal units (lb/MMBtu) from any coal-fired unit or group of coal-fired units. Each emission limit shall be based on a rolling 30-boiler-operating-day average, unless otherwise indicated in specific paragraphs.

Coal fired unit or group of coal-fired units	Federal emission limitation
--	-----------------------------

Coronado Generating Station Unit 1	0.065
Coronado Generating Station Unit 2	0.080

(ii) [Reserved]

(4) *Compliance dates.* (i) The owners/operators of each unit subject to this paragraph (f) shall comply with the NO<sub>x</sub> emissions limitations and other NO<sub>x</sub>-related requirements of this paragraph (f) no later than December 5, 2017.

(ii) The owners/operators of each unit subject to this paragraph (f) shall comply with the applicable PM<sub>10</sub> and SO<sub>2</sub> emissions limits submitted to EPA as part of the Arizona Regional Haze SIP in a letter dated February 28, 2011, and approved into the Arizona State Implementation Plan on December 5, 2012, as well as the related compliance, recordkeeping and reporting of this paragraph (f) no later than June 3, 2013.

(5) *Compliance determinations for NO<sub>x</sub> and SO<sub>2</sub>*--(i) *Continuous emission monitoring system.* (A) At all times after the compliance date specified in paragraph (f)(4) of this section, the owner/operator of each coal-fired unit shall maintain, calibrate, and operate a CEMS, in full compliance with the requirements found at 40 CFR part 75, to accurately measure SO<sub>2</sub>, NO<sub>x</sub>, diluent, and stack gas volumetric flow rate from each unit. All valid CEMS hourly data shall be used to determine compliance with the emission limitations for NO<sub>x</sub> and SO<sub>2</sub> in paragraph (f)(3) of this section for each unit. When the CEMS is out-of-control as defined by 40 CFR part 75, that CEMS data shall be treated as missing data, and not used to calculate the emission average. Each required CEMS must obtain valid data for at least 90 percent of the unit operating hours, on an annual basis.

(B) The owner/operator of each unit shall comply with the quality assurance procedures for CEMS found in 40 CFR part 75. In addition to these 40 CFR part 75 requirements, relative

accuracy test audits shall be calculated for both the NO<sub>x</sub> and SO<sub>2</sub> pounds per hour measurement and the heat input measurement. The CEMS monitoring data shall not be bias adjusted. The inlet SO<sub>2</sub> and diluent monitors required by this rule shall also meet the Quality Assurance/Quality Control (QA/QC) requirements of 40 CFR part 75. The testing and evaluation of the inlet monitors and the calculations of relative accuracy for lb/hr of NO<sub>x</sub>, SO<sub>2</sub> and heat input shall be performed each time the 40 CFR part 75 CEMS undergo relative accuracy testing.

(ii) *Compliance determinations for NO<sub>x</sub>.* (A) [Reserved]

(B) *Coronado Generating Station.* Compliance with the NO<sub>x</sub> emission limits for Coronado Unit 1 and Coronado Unit 2 in paragraph (f)(3)(i) of this section shall be determined on a rolling 30 boiler-operating-day basis. The 30-boiler-operating-day rolling NO<sub>x</sub> emission rate for each unit shall be calculated in accordance with the following procedure: Step one, sum the total pounds of NO<sub>x</sub> emitted from the unit during the current boiler operating day and the previous twenty-nine (29) boiler operating days; Step two, sum the total heat input to the unit in MMBtu during the current boiler operating day and the previous twenty-nine (29) boiler operating days; Step three, divide the total number of pounds of NO<sub>x</sub> emitted from that unit during the thirty (30) boiler operating days by the total heat input to the unit during the thirty (30) boiler operating days. A new 30-boiler-operating-day rolling average NO<sub>x</sub> emission rate shall be calculated for each new boiler operating day. Each 30-boiler-operating-day average NO<sub>x</sub> emission rate shall include all emissions that occur during all periods within any boiler operating day, including emissions from startup, shutdown, and malfunction.

(C) If a valid NO<sub>x</sub> pounds per hour or heat input is not available for any hour for a unit, that heat input and NO<sub>x</sub> pounds per hour shall not be used in the calculation of the 30-day rolling average.

(iii) *Compliance determinations for SO<sub>2</sub>.* (A) The 30-day rolling average SO<sub>2</sub> emission rate for each coal-fired unit shall be calculated in accordance with the following procedure: Step one, sum the total pounds of SO<sub>2</sub> emitted from the unit during the current boiler-operating day and the previous twenty-nine (29) boiler- operating days; step two, sum the total heat input to the unit in MMBtu during the current boiler- operating day and the previous twenty-nine (29) boiler- operating day; and step three, divide the total number of pounds of SO<sub>2</sub> emitted during the thirty (30) boiler-operating days by the total heat input during the thirty (30) boiler-operating days. A new 30-day rolling average SO<sub>2</sub> emission rate shall be calculated for each new boiler-operating day. Each 30-day rolling average SO<sub>2</sub> emission rate shall include all emissions and all heat input that occur during all periods within any boiler-operating day, including emissions from startup, shutdown, and malfunction.

(B) [Reserved]

(C) If a valid SO<sub>2</sub> pounds per hour at the outlet of the FGD system or heat input is not available for any hour for a unit, that heat input and SO<sub>2</sub> pounds per hour shall not be used in the calculation of the 30-day rolling average.

(D) If both a valid inlet and outlet SO<sub>2</sub> lb/MMBtu and an outlet value of lb/hr of SO<sub>2</sub> are not available for any hour, that hour shall not be included in the efficiency calculation.

\* \* \* \* \*

(10) *Equipment operations.* (i) [Reserved]

(ii) *Coronado Generating Station.* At all times, including periods of startup, shutdown, and malfunction, the owner or operator of Coronado Generating Station Unit 1 and Unit 2 shall, to the extent practicable, maintain and operate each unit in a manner consistent with good air pollution control practices for minimizing emissions. The owner or operator shall continuously



operate pollution control equipment at all times the unit it serves is in operation, and operate pollution control equipment in a manner consistent with technological limitations, manufacturer's specifications, and good engineering and good air pollution control practices for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Regional Administrator which may include, but is not limited to, monitoring results, review of operating and maintenance procedures, and inspection of each unit.

\* \* \* \* \*